Appendix 1: Eligible Diesel Emissions Reduction Solutions

Projects must include one or more of the following diesel emissions reduction solutions that utilize a certified engine configuration and/or a verified technology. DAQ is particularly interested in projects that combine technologies in order to further reduce emissions.

a. Verified Retrofit Technologies: A "retrofit" project is defined broadly to include any technology, device, or system that when applied to an existing diesel engine achieves emission reductions beyond what is currently required by EPA regulations at the time of the engine's certification. A list of eligible EPA-verified retrofit technologies is available at www.epa.gov/otaq/retrofit/verif-list.htm; a list of eligible CARB-verified retrofit technologies is available at www.arb.ca.gov/diesel/verdev/vt/cvt.htm. These technologies include:

i. Exhaust Controls: Exhaust Controls include pollution control devices installed in the exhaust system (such as oxidation catalysts and particulate matter filters), or systems that include crankcase emission control (like a closed crankcase filtration system). This funding can cover up to 100% of the cost (labor and equipment) for an eligible exhaust control.

ii. Engine Upgrades: Generally, engine upgrade involves the removal of parts on a certified engine configuration and replacement with parts that cause the engine to represent an engine configuration which is certified to meet more stringent federal emission standards. Some engines are able to be upgraded to reduce their emissions by applying manufacturer upgrades that are retrofits verified by EPA or CARB as a package of components demonstrated to achieve specific levels of emission reductions. Some engines are able to be upgraded to a cleaner EPA certified configuration through the application of a "kit" (the "kit" may not necessarily be verified as a retrofit by EPA or CARB, but the "kit" must be used to rebuild the engine to an engine configuration which is certified to meet more stringent federal emission standards. For example, a tier 0 nonroad engine could be upgraded to a certified tier 1 nonroad configuration). This funding can cover up to 100% of the cost (labor and equipment) for an engine upgrade with a manufacturer upgrade that is a retrofit verified by EPA or CARB as a package of components demonstrated to achieve specific levels of emission reductions. In the case of an engine upgrade with a "kit" applied at the time of rebuild, this funding cannot be applied to the entire cost of the engine rebuild, but only the incremental cost of the upgrade "kit" and associated labor costs for installation. Note: Engine upgrades may not be available for all engines, and not all upgrades may achieve an emissions benefit. To be funded, the upgrade must result in an emissions benefit by meeting a more stringent emission standard or verified level of reduction. For an engine to be eligible for an upgrade, the engine must be currently operating and performing its intended function.

b. Verified Idle Reduction Technologies: An idle reduction project is generally defined as the installation of a technology or device that reduces unnecessary idling of the main drive engine of diesel vehicles or equipment and/or is designed to provide services (such as heat, air conditioning, and/or electricity) to vehicles and equipment that would otherwise require the operation of the main drive engine while the vehicle is temporarily parked or remains stationary. The reduction in idling will conserve diesel fuel and must also lower emissions. This funding can cover up to 100% of the cost (labor and equipment) for an eligible, verified idle reduction

technology. A list of EPA verified idle reduction technologies is available at www.epa.gov/smartway/transport/what-smartway/verified-technologies.htm, and includes the following technology categories:

i. Auxiliary power units and generator sets;
ii. Battery air conditioning systems;
iii. Fuel operated heaters; and
iv. Shore connection systems.

c. Certified Engine Repowers: Repower refers to the removal of an existing engine and replacing it with a newer, cleaner engine that is certified to a more stringent set of engine emissions standards. Repower includes, but is not limited to, diesel engine replacement with an engine certified for use with a cleaner fuel and/or the replacement of a non-road engine with a highway engine. In order for a repower to be eligible, the repowered vehicle, engine or equipment must continue to perform the same function as before the repower. This funding can cover up to 75% of the cost (labor and equipment) of an eligible engine repower. For a repower that involves the removal of an existing diesel propulsion engine and its replacement with a genset(s), the electric generator in a genset together with the newer, cleaner engine are both eligible costs of the repower, subject to the cost-share requirement defined above. For a stationary or auxiliary diesel powered electric generator (genset), repower means the removal of the existing diesel engine from the genset and replacing it with a new, cleaner engine. Only the newer, cleaner engine (labor and equipment) is an eligible cost of the repower, subject to the cost-share requirement defined above.

i. Repower Criteria: Repower projects are eligible for funding on the condition that the replaced engine is properly disposed. Evidence of appropriate disposal, including the engine serial number, is required in a final assistance agreement report submitted to DAQ. Drilling a hole in the engine block and manifold while retaining possession of the engine is an acceptable scrapping method. Other methods may be considered and will require prior DAQ approval. If scrapped or salvaged engines are to be sold, program income requirements apply.

(1) Non-road Engines: The engine being replaced will be scrapped or rendered permanently disabled or returned to the original engine manufacturer for remanufacturing to a certified cleaner emission standard.

(2) Highway Engines: The engine being replaced will be scrapped or rendered permanently disabled or returned to the original engine manufacturer for remanufacturing to MY 2007 or newer certified emission standards.

d. Vehicle and Equipment Replacements: Non-road and highway diesel vehicles and equipment can be replaced under this program with newer, cleaner vehicles and equipment that operate on diesel or alternative fuels and use engines certified by EPA and, if applicable, CARB to meet a more stringent set of engine emissions standards. Replacement projects can include the replacement of diesel vehicles/equipment with newer, cleaner diesel or hybrid. The replacement vehicle/equipment must be of the same type and similar gross vehicle weight rating or horsepower as the vehicle/equipment being replaced (e.g., a 300 horsepower bulldozer is replaced by a bulldozer of similar horsepower). The replacement vehicle/equipment must perform the same function as the vehicle/equipment that is being replaced (e.g., an excavator used to dig pipelines would be replaced by an excavator that continues to dig pipelines). This

funding covers the incremental cost of a newer, cleaner vehicle or piece of equipment, up to 25% of the cost of an eligible replacement vehicle/equipment.

e. Repower and Replacement Restrictions: This restriction applies to all repower and replacement projects as defined above. The following activities are not eligible for funding under this RFP:

i. Repower or Replacements that would have occurred through normal attrition are considered to be the result of normal fleet turnover and are not eligible for funding under this program. Normal attrition is generally defined as a replacement or repower that is scheduled to take place between now and the end of the project period. Normal attrition is typically defined by the vehicle or fleet owner's budget plan, operating plan, standard procedures, or retirement schedule. For example, if a transit fleet typically retires vehicles after 20 years, a bus that is currently in its 18th or 19th year of service is not eligible for replacement. A bus that is currently in its 17th year of service and has 3 years of useful life remaining (as defined by the fleet's retirement schedule) is eligible for replacement.

ii. The purchase of new vehicles or equipment to expand a fleet is not covered by this program.